

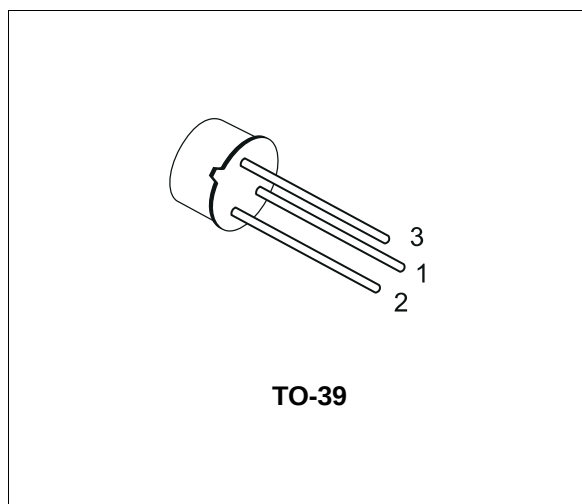
SILICON NPN TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPE
- NPN TRANSISTOR

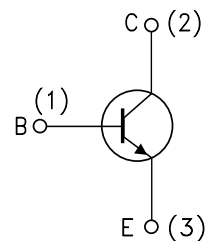
DESCRIPTION

The BFX34 is a silicon Epitaxial Planar NPN transistor in Jedec TO-39 metal case, intended for high current applications.

Very low saturation voltage and high speed at high current levels make it ideal for power drivers, power amplifiers, switching power supplies and relay drivers inverters.



INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage ($I_E = 0$)	120	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)	60	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)	6	V
I_C	Collector Current	5	A
P_{tot}	Total Dissipation at $T_{case} \leq 25\text{ }^{\circ}\text{C}$ $T_{amb} \leq 25\text{ }^{\circ}\text{C}$	5 0.87	W W
T_{stg}	Storage Temperature	-65 to 200	$^{\circ}\text{C}$
T_j	Max. Operating Junction Temperature	200	$^{\circ}\text{C}$

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	35	°C/W
R _{thj-amb}	Thermal Resistance Junction-amb	Max	200	°C/W

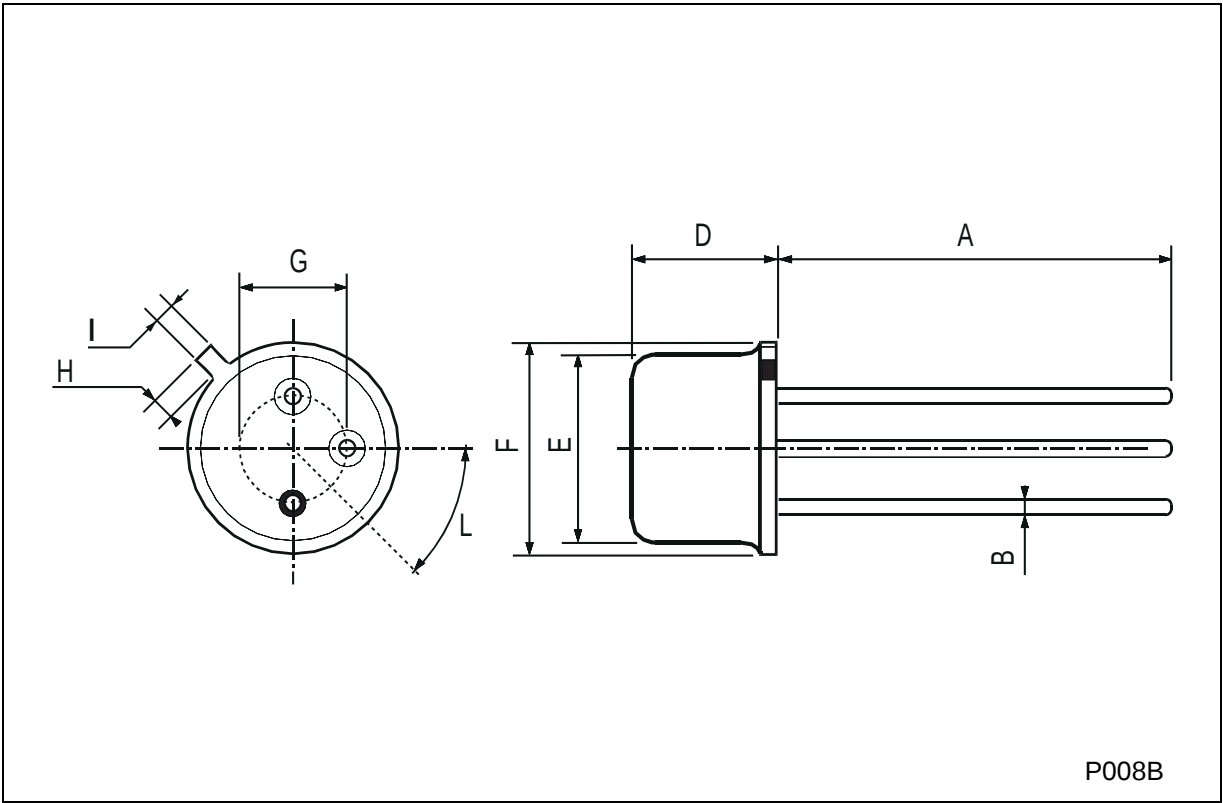
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cut-off Current (V _{BE} = 0)	V _{CE} = 60 V		0.02	10	μA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{EB} = 4 V		0.05	10	μA
V _{(BR)CBO} *	Collector-base Breakdown Voltage (I _E = 0)	I _C = 5 mA	120			V
V _{CEO(sus)} *	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 100 mA	60			V
V _{EBO} *	Emitter-base Voltage (I _C = 0)	I _E = 1 mA	6			V
V _{CE(sat)} *	Collector-Emitter Saturation Voltage	I _C = 5 A I _B = 0.5 A		0.4	1	V
V _{BE(sat)} *	Base-Emitter Saturation Voltage	I _C = 5 A I _B = 0.5 A		1.3	1.6	V
h _{FE} *	DC Current Gain	I _C = 1 A V _{CE} = 2 V I _C = 1.5 A V _{CE} = 0.6 V I _C = 2 A V _{CE} = 2 V	40	100 75 80	150	
f _T *	Transition Frequency	I _C = 0.5 A V _{CE} = 5 V f = 20 MHz	70	100		MHz
C _{EBO}	Emitter-base Capacitance	I _C = 0 V _{EB} = 0.5 V f = 1 MHz		300	500	pF
C _{CBO}	Collector-base Capacitance	I _E = 0 V _{CB} = 10 V f = 1 MHz		40	100	pF
t _{on} t _{off}	RESISTIVE LOAD Turn-on Time Turn-off Time	I _C = 0.5 A V _{CC} = 20 V I _{B1} = -I _{B2} = 0.5 A		0.6 0.6	0.25 1.2	μs μs

* Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

TO-39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45° (typ.)					



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